

Records and New Host of Pea Crabs (Decapoda: Pinnotheridae) for Baja California, Mexico

by

ERNESTO CAMPOS-GONZÁLEZ

Escuela de Ciencias Biológicas, Universidad Autónoma de Baja California,
Apartado Postal 2300, Ensenada, B.C., Mexico

Abstract. *Tivela stultorum* is a new definitive host of *Pinnixa littoralis*, and for first time *P. littoralis* and *Fabia subquadrata* are recorded in Baja California, Mexico.

INTRODUCTION

THE PINNOTHERIDAE are symbiotic crustaceans that live with ascidians, annelids, crustaceans, echinurans, echinoderms, and mollusks (SCHMITT *et al.*, 1973). At present, eight pinnotherid species are recorded from the temperate zone of the west coast of Baja California from the U.S.-Mexican border to Punta Eugenia (SCHMITT *et al.*, 1973; GARTH & ABBOTT, 1980). The present note adds two species and a new host for one of them.

DESCRIPTION

Pinnixa littoralis Holmes, 1894

Previously known distribution: "Prince William Sound (Alaska) to San Diego," California, U.S.A. (GARTH & ABBOTT, 1980).

Recorded host: GARTH & ABBOTT (1980) list 18 hosts for this species, but only *Tresus capax* (Gould, 1850), *T. nuttallii* (Conrad, 1837), and *Saxidomus nuttalli* Conrad, 1837, are recorded as definitive hosts (i.e., hosts for the adult crab).

New definitive host and new record: 4 females (3 ovigerous) and 3 males were found in the mantle cavity of the Pismo clam, *Tivela stultorum* (Mawe, 1823), collected from the sandy beach of Bahía Santa María, about 10 km south Bahía San Quintín, Baja California, Mexico (30°23'N, 115°54'W), in August 1984, by S. I. Salazar-V. and G. Gandica.

Measurements (mm): Carapace width (length) of females—13.76 (8.0), 14.06 (8.38), 15.16 (9.8); of males—

8.34 (4.56), 7.66 (4.52). No measurements were made on one male and one female.

Remarks: According to the observations of Mr. Gandica (clam salesman in Ensenada, Baja California), *Pinnixa littoralis* is rare in *Tivela stultorum*. To obtain one or two specimens he has to dissect several hundred clams. All of the collected pea crabs occurred as a male-female pair, except for one solitary female. Other pea crabs recorded from the Pismo clam are *Fabia concharum* (Rathbun, 1893) and *F. subquadrata* Dana, 1851 (SCHMITT *et al.*, 1973).

Fabia subquadrata Dana, 1851

Previously known distribution: "Akutan Pass (Aleutian Islands, Alaska) to La Jolla (San Diego Co.)," California, U.S.A. (GARTH & ABBOTT, 1980).

Material examined: Punta San Miguel, Bahía Todos Santos (BTS), Ensenada, B.C. (31°16'N, 116°45'W), intertidal, commensal in *Mytilus californianus* Conrad, 1837, January 1984, by S. I. Salazar-V., 2 females (ovigerous); Punta Morro, BTS, Ensenada, B.C. (31°54'N, 116°36'W), intertidal, commensal in *M. californianus*, 11 March 1985, by Patricia Alemán-D., 2 females (ovigerous); Ejido Eréndira, Ensenada, B.C. (31°54'N, 116°38'W), intertidal, commensal in *M. californianus*, November 1981, by Rosana Suárez, 4 females (3 ovigerous).

Measurements (mm): Carapace width (length) of females—10.2 (9.44), 12.54 (10.4), 12.72 (10), 11.18 (8.72), 9.56 (8.44), 13 (10), 13.04 (10.9), 11.5 (11.3).

Remarks: Previously, GARCÍA-PÁMANES *et al.* (1982) re-

corded *Fabia subquadrata* from Eréndira, B.C. However, the material that supported this record has been lost. My record confirms the presence of this species on the west coast of Baja California.

The characteristics that differentiate *Fabia subquadrata* from *F. concharum* are present in the material that I examined (see diagnosis of female in RATHBUN, 1918, and DAVIDSON, 1968). The only character that did not agree with the diagnosis of RATHBUN (1918) was the relative length of the propodus and dactyl of the outer maxilliped. Rathbun noted that the dactyl reaches the end of the penultimate segment in *F. subquadrata*, but in the material that I examined the last segment did not extend completely to the end of the propodus (see DAVIDSON, 1968:fig. 1A). Even so, dactyl length serves to separate this species from *F. concharum*, whose dactyl is conspicuously smaller.

ACKNOWLEDGMENTS

The author is most grateful to G. Gandica and S. I. Salazar-V., who collected the specimens of *Pinnixa littoralis*, to Dr. John S. Garth (University of Southern California) for his continuous support, and Ruben Ríos-G. (Centro de Investigación Científica y Educación Superior de En-

senada) for the criticism of the manuscript. The material is included in the collection of Invertebrates, Escuela de Ciencias Biológicas, Universidad Autónoma de Baja California (Ensenada, B.C.).

LITERATURE CITED

- DAVIDSON, E. S. 1968. The *Pinnotheres concharum* complex (Crustacea, Decapoda, Family Pinnotheridae). Bull. So. Calif. Acad. Sci. 67(2):85-88.
- GARCÍA-PÁMANES, F., A. SALAS-GARZA & A. OLIVA DE LA PEÑA. 1982. Ecología de *Mytilus californianus*. In: Tomo II, Cap. 5, Estudio para el desarrollo del cultivo comercial de los mejillones *Mytilus californianus* y *M. edulis* en las costas de Baja California. UABC-110-SEP: 208 pp.
- GARTH, J. S. & D. P. ABBOTT. 1980. Brachyura: the true crabs. Pp. 593-630. In: R. H. Morris, D. P. Abbott & E. C. Haderlie (eds.), Intertidal invertebrates of California. Stanford Univ. Press: Stanford, California.
- RATHBUN, M. J. 1918. The grapsoid crabs of America. Bull. U.S. Natl. Mus. 97:1-461.
- SCHMITT, W. L., J. C. MCCAIN & E. S. DAVIDSON. 1973. Decapoda I. Brachyura I. Fam. Pinnotheridae. In: H. E. Gruner & L. B. Holthuis (eds.), Crustaceorum Catalogus. Den Haag, W. Junk B. V. 160 pp.